Subject: Influence of the reduced B-field on the track reconstruction
Posted by donghee on Fri, 21 Mar 2014 23:50:47 GMT
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Hi Stefano,

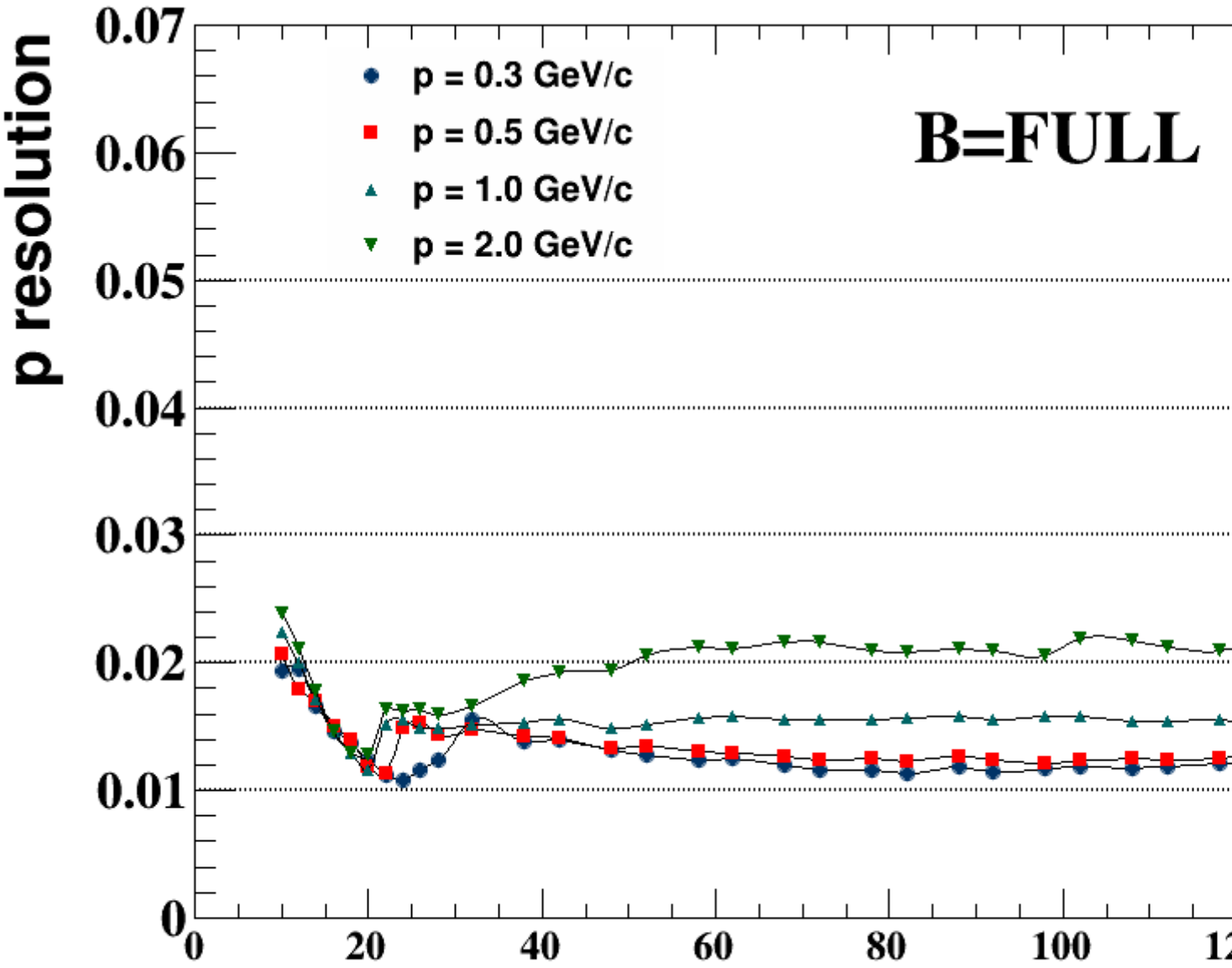
I try to see the effect of reduced B-field, which was intensively discussed during this week.
Two plots are produced to compare the momentum resolution with two diffrent field map configurations for "FULL" and "HALF".
Simulation has been made with single Muon particle with momentum range starting from 0.3 GeV upto 2 GeV, and scan theta between 10 and 148 degree.
PANDAroot Jan14 has been used and simulation codes are attached to cross check.
The pull distributions of momentum for p=0.3 GeV and both Half and Full field map configurations cases are also attached to make sure the fit procedure. (Gauss+Pol(3) has been used.)

The momentum resolution with half field map is factor 2 times worser than FULL field map.
If you want to check the analysis code, please let me know, I will send you.

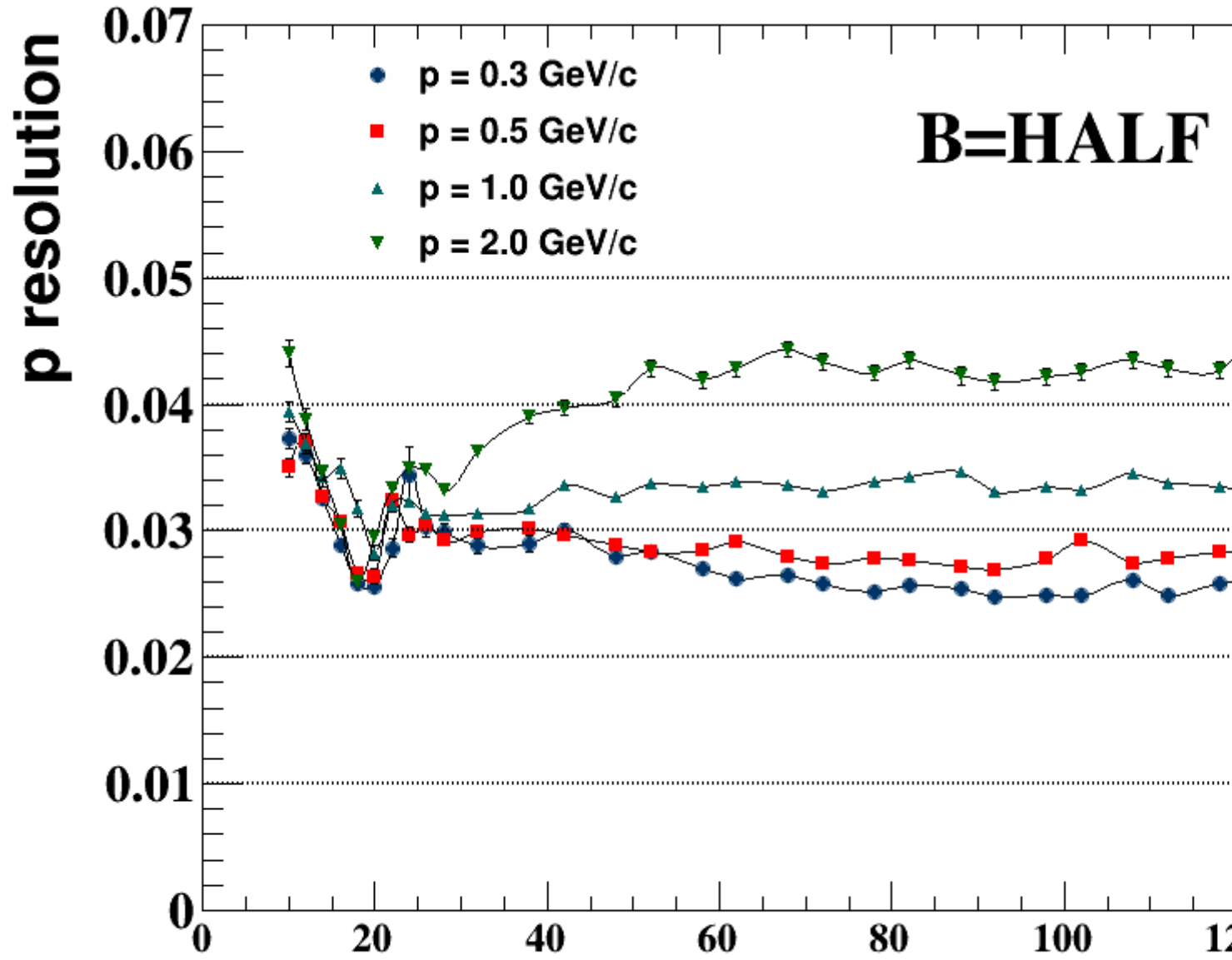
Best wishes,
Donghee

File Attachments

1) run_pid_dig.C, downloaded 369 times
2) run_pid_pid.C, downloaded 374 times
3) run_pid_rec.C, downloaded 363 times
4) run_pid_sim.C, downloaded 348 times
5) resolution_B_half_03.pdf, downloaded 364 times
6) resolution_B_full_03.pdf, downloaded 335 times
7) summary_for_B_full.pdf, downloaded 347 times
8) summary_for_B_full.png, downloaded 753 times



9) summary_for_B_half.pdf, downloaded 334 times
10) summary_for_B_half.png, downloaded 685 times


p resolution
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
0
20
40
60
80
100
p = 0.3 GeV/c
p = 0.5 GeV/c
p = 1.0 GeV/c
p = 2.0 GeV/c
B=HALF